

Notice of Allowability

Application No.

10/042,304

Examiner

Russ Guill

Applicant(s)

BEN-DAVID ET AL.

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an Amendment filed April 5, 2006.
2. ☒ The allowed claim(s) is/are 1 - 8, 10 - 19, 21 - 30 and 32 - 33.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

1. This Office Action is in response to an Amendment filed April 5, 2005. Claims 9, 20 and 31 have been canceled. Claims 1 - 8, 10 - 19, 21 - 30 and 32 - 33 are pending. Claims 1 - 8, 10 - 19, 21 - 30 and 32 - 33 have been examined. Claims 1 - 8, 10 - 19, 21 - 30 and 32 - 33 are allowed.

Allowable Subject Matter

2. Claims 1 - 8, 10 - 19, 21 - 30 and 32 - 33 are allowed over the prior art of record.
3. While Beer (On-the-Fly Model Checking of RCTL Formulas") teaches a method for checking a model, which defines states of a system under study and a transition relation among the states, and, specifying a property that applies to a target set that comprises at least one target state among the states of a system under study, and, beginning from an initial set of at least one initial state among the states of the system, computing successive reachable sets comprising the states of the system that are reachable from the initial set, and finding an intersection between one of the reachable sets and the target set, and while Beer ("RuleBase: an Industry-Oriented Formal Verification Tool") teaches computing a trace from the at least one target state in the intersection through the states in the reachable sets to the at least one initial state, and, using a computed trace for checking the model, and while Torrieri teaches a plurality of mutually-disjoint paths through a graph, none of these references taken either alone or in combination with the prior art of record teaches a method for checking a model specifically including:
- a. Regarding claim 1, "computing a plurality of mutually-disjoint traces from the at least one target state in the intersection through the states in the reachable sets to the at least one initial state, wherein the plurality of mutually-disjoint

traces comprises at least one initial trace and at least one subsequently-computed trace; selecting the states on each subsequently-computed trace are selected so as to maximize a distance of the subsequently-computed trace from at least the at least one initial trace," in combination with the remaining features and elements of the claimed invention.

b. Regarding **claim 12**, "to compute," and "a plurality of mutually-disjoint traces from the at least one target state in the intersection through the states in the reachable sets to the at least one initial state, wherein the plurality of mutually-disjoint traces comprises at least one initial trace and at least one subsequently-computed trace; and wherein the states on each subsequently-computed trace are selected so as to maximize a distance of the subsequently-computed trace from at least the at least one initial trace," in combination with the remaining features and elements of the claimed invention.

c. Regarding **claim 23**, "to compute," and "a plurality of mutually-disjoint traces from the at least one target state in the intersection through the states in the reachable sets to the at least one initial state, wherein the plurality of mutually-disjoint traces comprises at least one initial trace and at least one subsequently-computed trace; and wherein the states on each subsequently-computed trace are selected so as to maximize a distance of the subsequently-computed trace from at least the at least one initial trace," in combination with the remaining features and elements of the claimed invention.

It is for these reasons that the Applicants' invention defines over the prior art of record.

Conclusion

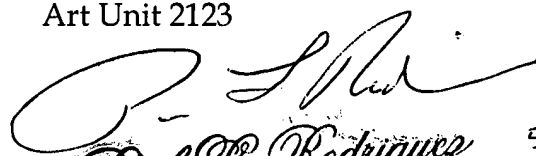
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell L. Guill whose telephone number is 571-272-7955. The examiner can normally be reached on Monday - Friday 10:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Any inquiry of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RG

Russ Guill
Examiner
Art Unit 2123


Paul L. Rodriguez
Primary Examiner
Art Unit 2123
5/23/06